

**NEW SOURCE CONSTRUCTION PERMIT
and MINOR SOURCE OPERATING PERMIT
OFFICE OF AIR MANAGEMENT**

**Alpha Systems, Inc.
5100 Beck Drive
Elkhart, Indiana 46516**

(herein known as the Permittee) is hereby authorized to construct and operate subject to the conditions contained herein, the emission units described in Section A (Source Summary) of this permit.

This permit is issued to the above mentioned company under the provisions of 326 IAC 2-5.1 with conditions listed on the attached pages.

Operation Permit No.: MSOP 039-11066-00504	
Issued by: Paul Dubenetzky, Branch Chief Office of Air Management	Issuance Date: October 6, 1999

First Minor permit Revision: 039-11874-00504

Issuance Date: March 30, 2000

First Significant Permit Revision: 039-12282-00504	Pages Affected: 2, 2a, 3, 3a, 3b, 12-14, 14a through 14e, 15, 16, 16a
Issued by: Paul Dubenetzky, Branch Chief Office of Air Management	Issuance Date:

TABLE OF CONTENTS

SECTION A SOURCE SUMMARY

- A.1 General Information [326 IAC 2-5.1-3(c)] [326 IAC 2-6.1-4(a)]
- A.2 Emission Units and Pollution Control Equipment Summary
- A.3 Part 70 Permit Applicability [326 IAC 2-7-2]

SECTION B GENERAL CONSTRUCTION CONDITIONS

- B.1 Permit No Defense [IC 13]
- B.2 Definitions
- B.3 Effective Date of the Permit [IC 13-15-5-3]
- B.4 Revocation of Permits [326 IAC 2-1.1-9(5)]
- B.5 Modification to Permit [326 IAC 2]
- B.6 Minor Source Operating Permit [326 IAC 2-6.1]

SECTION C SOURCE OPERATION CONDITIONS

- C.1 PSD Minor Source Status [326 IAC 2-2]
- C.2 Preventive Maintenance Plan [326 IAC 1-6-3]
- C.3 Permit Revision [326 IAC 2-5.1-3(e)(3)] [326 IAC 2-6.1-6]
- C.4 Inspection and Entry [326 IAC 2-5.1-3(e)(4)(B)] [326 IAC 2-6.1-5(a)(4)]
- C.5 Transfer of Ownership or Operation [326 IAC 2-6.1-6(d)(3)]
- C.6 Permit Revocation [326 IAC 2-1-9]
- C.7 Opacity [326 IAC 5-1]
- C.8 Fugitive Dust Emissions [326 IAC 6-4]
- C.9 Performance Testing [326 IAC 3-6]
- C.10 Compliance Monitoring [326 IAC 2-1.1-11]
- C.11 Maintenance of Monitoring Equipment [IC 13-14-1-13]
- C.12 Monitoring Methods [326 IAC 3]
- C.13 Actions Related to Noncompliance Demonstrated by a Stack Test

Record Keeping and Reporting Requirements

- C.14 Annual Emission Statement [326 IAC 2-6]
- C.15 Monitoring Data Availability [326 IAC 2-6.1-2] [IC 13-14-1-3]
- C.16 General Record Keeping Requirements [326 IAC 2-6.1-2]
- C.17 General Reporting Requirements [326 IAC 2-1.1-11] [326 IAC 2-6.1-2] [IC 13-14-1-13]

SECTION D.1 EMISSIONS UNIT OPERATION CONDITIONS

Emission Limitations and Standards

- D.1.1 Volatile Organic Compounds (VOC) [326 IAC 8-1-6]
- D.1.2 Hazardous Air Pollutants (HAPs)
- D.1.3 Particulate Matter (PM) [326 IAC 6-3-2]
- D.1.4 Preventive Maintenance Plan [326 IAC 1-6-3]

Compliance Determination Requirements

- D.1.5 Testing Requirements [326 IAC 2-1.1-11]
- D.1.6 Volatile Organic Compounds (VOC)
- D.1.7 Baghouse Operation
- D.1.8 Baghouse Inspections
- D.1.9 Broken or Failed Bag Detection

Record Keeping and Reporting Requirements

- D.1.10 Reporting Keeping Requirements
- D.1.11 Reporting Requirements

TABLE OF CONTENTS (Continued)

SECTION D.2 EMISSIONS UNIT OPERATION CONDITIONS - Protecta Drive Plant

Emission Limitations and Standards

- D.2.1 Particulate Matter (PM) [326 IAC 6-3-2]
- D.2.2 Preventive Maintenance Plan [326 IAC 1-6-3]

Compliance Determination Requirements

- D.2.3 Testing Requirements [326 IAC 2-1.1-11]
- D.2.4 Dry Filter Operation
- D.2.5 Monitoring

Record Keeping and Reporting Requirements

- D.2.6 Record Keeping Requirements

SECTION D.3 EMISSIONS UNIT OPERATION CONDITIONS - Beck Drive Plant

Emission Limitations and Standards

- D.3.1 Particulate Matter (PM) [326 IAC 6-3-2]
- D.3.2 Preventive Maintenance Plan [326 IAC 1-6-3]

Compliance Determination Requirements

- D.3.3 Testing Requirements [326 IAC 2-1.1-11]
- D.3.4 Baghouse Operation
- D.3.5 Baghouse Inspections
- D.3.6 Broken or Failed Bag Detection

Record Keeping and Reporting Requirements [326 IAC 2-5.1-3(e)(2)] [326 IAC 2-6.1-5(a)(2)]

- D.3.7 Record Keeping Requirements

Quarterly Report
Annual Notification

SECTION A

SOURCE SUMMARY

This permit is based on information requested by the Indiana Department of Environmental Management (IDEM), Office of Air Management (OAM). The information describing the source contained in conditions A.1 through A.3 is descriptive information and does not constitute enforceable conditions. However, the Permittee should be aware that a physical change or a change in the method of operation that may render this descriptive information obsolete or inaccurate may trigger requirements for the Permittee to obtain additional permits or seek modification of this permit pursuant to 326 IAC 2, or change other applicable requirements presented in the permit application.

A.1 General Information [326 IAC 2-5.1-3(c)] [326 IAC 2-6.1-4(a)]

The Permittee currently owns and operates an adhesive manufacturing plant. The Permittee proposed to construct and operate a plant that will manufacture fiberglass countertops and sinks.

Authorized Individual:	Steve Rusincovitch
Source Address:	5100 Beck Drive, Elkhart, Indiana 46516
Mailing Address:	5120 Beck Drive, Elkhart, Indiana 46516
Phone Number:	(219) 295-5206
SIC Code:	2891
County Location:	Elkhart County
Status:	Attainment for all criteria pollutants
Source Status:	Minor Source Operating Permit

A.2 Emissions Units and Pollution Control Equipment Summary

This stationary source is approved to construct and operate the following emissions units and pollution control devices:

Beck Drive Plant: (consists of 5120 Beck Drive building and 5100 Beck Drive building)

5120 Beck Drive Building

- (a) Nine (9) natural gas-fired heaters, designated as C1-C9, with a maximum heat input capacity of 0.2 mmBtu/hr each and exhausts to the atmosphere.
- (b) Four (4) organic storage tanks, designated as T1-T4, a maximum throughput of 140,000 gallons per year each, located above ground and exhausts to the atmosphere. Tanks designated as T1 and T2 are vertical fixed roof tanks. Tanks designated as T3 and T4 are flat top tanks.
- (c) One (1) solvent-based adhesives production area, consisting of two (2) mixing vessels designated as M-1 and M-2, one (1) bulk product filling machine designated as F1, and exhausts to a stack designated as V1. M1 has a maximum raw material throughput of 586 pounds per hour and a maximum capacity of 300 gallons. M2 has a maximum raw material throughput of 277 pounds per hour and a maximum capacity of 275 gallons. F1 has a maximum raw material filling rate of 350 pounds per minute.
- (d) One (1) polyurethane adhesive production area.

- (e) One (1) water-based adhesive production area.
- (f) One (1) hot melt adhesive production area.
- (g) One (1) existing mix tank, used in the solvent-based adhesives production area, designed as M-1, increased maximum capacity to 500 gallons, this tank vents inside the building.
- (h) One (1) existing mix tank., used in the solvent-based adhesive production area, designed as M-2, increased maximum capacity to 400 gallons, this tank vents inside the building.
- (i) One (1) mix tank., used in the solvent-based adhesive production area, designed as M-3, with a maximum capacity of 300 gallons, this tank vents inside the building.
- (j) Six (6) storage tanks, designed as T-5 to T-10, with a maximum throughput of 2500 gallons per year each, located above ground and vents inside the building. The tanks designed as T-5 to T-10 are vertical fixed roof tanks.

5100 Beck Drive Building

- (k) One (1) stone mixer, identified as M1 which has a rated capacity of 2,219 pounds per hour (lb/hr). This mixer can only feed one (1) line at a time, either the flat sheet molding line, FS1 or the sink/countertop molding, C1.
- (l) One (1) flat sheet open molding line, identified as FS1 which has a rated capacity of 3,000 lb/hr. This facility is used to manufacture flat strips to match the countertops in line C1. From this process, the flat strip is conveyed to the sawing and sanding operation, identified as S1 including various already permitted sanders and two (2) flat top sanders designated as FS-1, FS-2 for finishing as a final product. This operation is capable of sawing and sanding 1614 pounds per hour of product.

One (1) dust collector, identified as DC1 used to control the particulate matter (PM) emissions coming from facility S1.
- (m) One (1) sink/countertop closed molding line, identified as C1 which is capable of molding 34 parts per hour. From this process, the parts are conveyed to the 0.8 million Btu/hr (mmBtu/hr) natural gas-fired dryer, identified D1 for drying as a final product.
- (n) One (1) stone mixer, designed as SM-1B, with a maximum capacity of 1500 lbs/hr and exhausts into the building.
- (o) Two (2) manual mixer, designed as MM-1 and MM-2, with a maximum capacity of 430 lbs each and exhausts into the building.
- (p) One (1) bulk resin tank, designed as BRT-1, with a maximum capacity of 6,000 gallons and exhausts into the building.
- (q) The facility increased their use of solvents, waxes, cleaners and other miscellaneous VOC containing materials used to manufacturer marble flat sinks and bowls.
- (r) One (1) Empire Blast Cabinet used to sand blast the marble tops, sinks and flat tops, vented to a dust collector designed as DC-2 and then internally.

- (s) Ten (10) hand grinders used for the final finish touch up operations are vented to dust collectors, designated as DC-3 to DC-6 and then internally. This operation is capable of grinding 538 pounds per hour.

Protecta Drive Plant:

- (t) One (1) rubber storage area.
- (u) Four (4) vacuum former machines.
- (v) One (1) woodworking and plastics machining area, with a maximum wood rate of 6.0 pounds per hour, a maximum plastic rate of 350.0 pounds per hour, exhausts to the atmosphere and consists of the following:
 - 1. Ten (10) inch table saw;
 - 2. Sixty (60) inch edge sander;
 - 3. Two (2) fourteen (14) inch band saws;
 - 4. Ten (10) inch swing saw;
 - 5. Three (3) router tables;
 - 6. One (1) vacuum former machine;.
 - 7. One (1) CNC router;
 - 8. Miscellaneous hand operated saws, grinders and drills; and
 - 9. One (1) hydraulic press.
- (w) Four (4) natural gas-fired ovens, with a maximum heat input capacity of 2.5 mmBtu/hr each and exhaust to stacks designated as OVN-001 thru OVN-004.
- (x) Ten (10) natural gas-fired infrared heater tubes, with a maximum heat input capacity of 0.1 mmBtu/hr each and exhaust to stacks designated as TH-001 thru TH-010.
- (y) One (1) marble top mold booth, designated as #1, with a maximum throughput of 0.125 units per hour, consisting of gel coat and resin application, controlled by dry filters for particulate matter overspray and exhausts to one (1) stack designated as SV-001.
- (z) One (1) glue line for polycarbonate skylights, with a maximum throughput of 37.7 units per hour and exhausts to the atmosphere.
- (aa) Ten (10) thirty (30) inch comfort fans.

A.3 Part 70 Permit Applicability [326 IAC 2-7-2]

This stationary source is required to have a Part 70 permit by 326 IAC 2-7-2 (Applicability) because:

- (a) It is a major source, as defined in 326 IAC 2-7-1(22);
- (b) The source shall submit a Title V permit application within twelve (12) months after the source becomes subject to Title V. This 12-month period starts at the postmarked submission date of the Affidavit of Construction for the modifications approved under First Minor Permit Revision 039-11874 issued on March 30, 2000 of Operation Permit No. MSOP 039-11066-00504.

SECTION D.1

EMISSIONS UNIT OPERATION CONDITIONS

Beck Drive Plant: (consists of 5120 Beck Drive building and 5100 Beck Drive building)

5120 Beck Drive Building

- (a) Nine (9) natural gas-fired heaters, designated as C1-C9, with a maximum heat input capacity of 0.2 mmBtu/hr each and exhausts to the atmosphere.
- (b) Four (4) organic storage tanks, designated as T1-T4, a maximum throughput of 140, 000 gallons per year each, located above ground and exhausts to the atmosphere.
- (c) Tanks designated as T1 and T2 are vertical fixed roof tanks. Tanks designated as T3 and T4 are flat top tanks.
- (d) One (1) solvent-based adhesives production area, consisting of two (2) mixing vessels designated as M-1 and M-2, one (1) bulk product filling machine designated as F1, and exhausts to a stack designated as V1. M1 has a maximum raw material throughput of 586 pounds per hour and a maximum capacity of 300 gallons. M2 has a maximum raw material throughput of 277 pounds per hour and a maximum capacity of 275 gallons. F1 has a maximum raw material filling rate of 350 pounds per minute.
- (e) One (1) polyurethane adhesive production area.
- (f) One (1) water-based adhesive production area. (f) One (1) hot melt adhesive production area.
- (g) One (1) existing mix tank, used in the solvent-based adhesives production area, designed as M-1, increased maximum capacity to 500 gallons, this tank vents inside the building.
- (h) One (1) existing mix tank, used in the solvent-based adhesive production area, designed as M-2, increased maximum capacity to 400 gallons, this tank vents inside the building.
- (i) One (1) mix tank, used in the solvent-based adhesive production area, designed as M-3, with a maximum capacity of 300 gallons, this tank vents inside the building.
- (j) Six (6) storage tanks, designed as T-5 to T-10, with a maximum throughput of 2500 gallons per year each, located above ground and vents inside the building. The tanks designated as T-5 to T-10 are vertical fixed roof tanks.

5100 Beck Drive Building

- (k) One (1) stone mixer, identified as M1 which has a rated capacity of 2,219 pounds per hour (lb/hr). This mixer can only feed one (1) line at a time, either the flat sheet molding line, FS1 or the sink/countertop molding, C1.

SECTION D.1 EMISSIONS UNIT OPERATION CONDITIONS (Continued)

5100 Beck Drive Building (Continued)

- (l) One (1) flat sheet open molding line, identified as FS1 which has a rated capacity of 3,000 lb/hr. This facility is used to manufacture flat strips to match the countertops in line C1. From this process, the flat strip is conveyed to the sawing and sanding operation, identified as S1 including various already permitted sanders and two (2) flat top sanders designated as FS-1, FS-2 for finishing as a final product. This operation is capable of sawing and sanding 1614 pounds per hour of product. One (1) dust collector, identified as DC1 used to control the particulate matter (PM) emissions coming from facility S1.
- (m) One (1) sink/countertop closed molding line, identified as C1 which is capable of molding 34 parts per hour. From this process, the parts are conveyed to the 0.8 million Btu/hr (mmBtu/hr) natural gas-fired dryer, identified D1 for drying as a final product.
- (n) One (1) stone mixer, designed as SM-1B, with a maximum capacity of 1500 lbs/hr and exhausts into the building.
- (o) Two (2) manual mixer, designed as MM-1 and MM-2, with a maximum capacity of 430 lbs each and exhausts into the building.
- (p) One (1) bulk resin tank, designed as BRT-1, with a maximum capacity of 6,000 gallons and exhausts into the building.
- (q) The facility is also using solvents, waxes, cleaners and other miscellaneous VOC containing materials used to manufacturer marble flat sinks and bowls.

Emission Limitations and Standards

D.1.1 Volatile Organic Compounds (VOC) [326 IAC 8-1-6]

The volatile organic materials used in the emission units identified in D.1 (a) - (q) shall be limited such that the VOC emissions shall be less than 25 tons per twelve-month period, rolled on a monthly basis.

During the first twelve (12) months of operation, the volatile organic material used shall be limited such that the total volatile organic material used divided by accumulated months of operation shall be less than VOC emission average of 2.08 tons per month, rolled on a monthly basis. Therefore, 326 IAC 8-1-6 will not apply.

D.1.2 Hazardous Air Pollutants (HAPs)

- (a) The HAP material used in the emission units identified in D.1 (a) - (q) shall be limited such that the single HAP emissions shall be less than 10 tons per twelve-month period, rolled on a monthly basis.

During the first twelve (12) months of operation, the HAP material used shall be limited such that the total HAP material used divided by accumulated months of operation shall be less than a single HAP emission average of 0.83 tons per month, rolled on a monthly basis. Therefore, 326 IAC 2-4.1-1 (New Source Toxics Control) will not apply.

- (b) The HAP material used in the emission units identified in D.1 (a) - (q) shall be limited such that the combined HAPs emissions shall be less than 25 tons per twelve-month period, rolled on a monthly basis.

During the first twelve (12) months of operation, the HAP material used shall be limited such that the total HAP material used divided by accumulated months of operation shall be less than a combined HAPs emission average of 2.08 tons per month, rolled on a monthly basis. Therefore, 326 IAC 2-4.1-1 (New Source Toxics Control) will not apply.

D.1.3 Particulate Matter (PM) [326 IAC 6-3-2]

- (a) The PM emissions from the Sawing/Sanding operation, S1 shall be limited to 3.55 pound per hour emission rate established as E in the formula listed below:
- (b) The adhesive booth shall have PM allowable emissions using the following equation:

Interpolation and extrapolation of the data for the process weight rate up to sixty thousand (60,000) pounds per hour shall be accomplished by use of the equation:

$$E = 4.10 P^{0.67} \quad \text{where } E = \text{rate of emission in pounds per hour; and} \\ P = \text{process weight rate in tons per hour.}$$

D.1.4 Preventive Maintenance Plan [326 IAC 1-6-3]

A Preventive Maintenance Plan, in accordance with Section B - Preventive Maintenance Plan, of this permit, is required for the Resin Molding operation (mixer M1, flat sheet open molding line, FS1; sink/countertop closed molding line, C1; flat top sanders FS-1 and FS-2; and baghouse DC1).

Compliance Determination Requirements

D.1.5 Testing Requirements [326 IAC 2-1.1-11]

The Permittee is not required to test this emissions unit by this permit. However, IDEM may require compliance testing when necessary to determine if the emissions unit is in compliance. If testing is required by IDEM compliance with the VOC limit specified in Condition D.1.1 and D.1.2 shall be determined by a performance test conducted in accordance with Section C - Performance Testing.

D.1.6 Volatile Organic Compounds (VOC)

Compliance with the VOC and HAP content and usage limitations contained in Conditions D.1.1 and D.1.2 shall be determined using formulation data supplied by the manufacturer. IDEM, OAM, reserves the authority to determine compliance using Method 24 in conjunction with the analytical procedures specified in 326 IAC 8-1-4.

D.1.7 Baghouse Operation

Pursuant to MSOP 039-11066-00504, issued on October 6, 1999, DC1 shall always be in operation, whenever the Sawing/Sanding operation S1 is in operation.

D.1.8 Baghouse Inspections

An inspection shall be performed each calendar quarter of all bags controlling the Sawing/Sanding operation S1, when venting to the atmosphere. A baghouse inspection shall be performed within three months of redirecting vents to the atmosphere and every three months thereafter. Inspections are optional when venting to the indoors. All defective bags shall be replaced.

D.1.9 Broken or Failed Bag Detection

In the event that bag failure has been observed:

- (a) The affected compartments will be shut down immediately until the failed units have been repaired or replaced. Within eight (8) hours of the determination of failure, response steps according to the timetable described in the Preventative Maintenance Plan shall be initiated. For any failure with corresponding response steps and timetable not described in the Preventative Maintenance Plan, response steps shall be devised within eight (8) hours of discovery of the failure and shall include a timetable for completion. Operations may continue only if the event qualifies as a malfunction and the Permittee satisfies the requirements of the malfunction provisions of this permit (Section C - Malfunction Provisions).
- (b) For single compartment baghouses, failed units and the associated process will be shut down immediately until the failed units have been repaired or replaced. Operations may continue only if the event qualifies as a malfunction and the Permittee satisfies the requirements of the malfunction provisions of this permit (Section C - Malfunction Provisions).

Record Keeping and Reporting Requirements [326 IAC 2-5.1-3(e)(2)] [326 IAC 2-6.1-5(a)(2)]

D.1.10 Record Keeping Requirements

- (a) To document compliance with Conditions D.1.1 and D.1.2, the Permittee shall maintain records in accordance with (1) through (5) below. Records maintained for (1) through (5) shall be taken monthly and shall be complete and sufficient to establish compliance with the VOC usage limits and/or the VOC emission limits established in Conditions D.1.1 and D.1.2.
 - (1) The amount and VOC and HAP content of each material and solvent used. Records shall include purchase orders, invoices, and material safety data sheets (MSDS) necessary to verify the type and amount used.
 - (2) A log of the dates of use;
 - (3) The cleanup solvent usage for each month;
 - (4) The total VOC and HAP usages for each month; and
 - (5) The weight of VOCs and HAPs emitted for each compliance period.
- (b) All records shall be maintained in accordance with Section C - General Record Keeping Requirements, of this permit.

D.1.11 Reporting Requirements

A quarterly summary of the information to document compliance with Conditions D.1.1 and D.1.2 shall be submitted to the address listed in Section C - General Reporting Requirements, of this permit, using the reporting forms located at the end of this permit, or their equivalent, within thirty (30) days after the end of the quarter being reported.

SECTION D.2

EMISSIONS UNIT OPERATION CONDITIONS

Protecta Drive Plant:

- (t) One (1) rubber storage area.
- (u) Four (4) vacuum former machines.
- (v) One (1) woodworking and plastics machining area, with a maximum wood rate of 6.0 pounds per hour, a maximum plastic rate of 350.0 pounds per hour, exhausts to the atmosphere and consists of the following:
 - 1. Ten (10) inch table saw;
 - 2. Sixty (60) inch edge sander;
 - 3. Two (2) fourteen (14) inch band saws;
 - 4. Ten (10) inch swing saw;
 - 5. Three (3) router tables;
 - 6. One (1) vacuum former machine;
 - 7. One (1) CNC router;
 - 8. Miscellaneous hand operated saws, grinders and drills; and
 - 9. One (1) hydraulic press.
- (w) Four (4) natural gas-fired ovens, with a maximum heat input capacity of 2.5 mmBtu/hr each and exhaust to stacks designated as OVN-001 thru OVN-004.
- (x) Ten (10) natural gas-fired infrared heater tubes, with a maximum heat input capacity of 0.1 mmBtu/hr each and exhaust to stacks designated as TH-001 thru TH-010.
- (y) One (1) marble top mold booth, designated as #1, with a maximum throughput of 0.125 units per hour, consisting of gel coat and resin application, controlled by dry filters for particulate matter overspray and exhausts to one (1) stack designated as SV-001.
- (z) One (1) glue line for polycarbonate skylights, with a maximum throughput of 37.7 units per hour and exhausts to the atmosphere.
- (aa) Ten (10) thirty (30) inch comfort fans.

Emission Limitations and Standards

D.2.1 Particulate Matter (PM) [326 IAC 6-3-2]

Pursuant to 326 IAC 6-3-2 (Process Operations), the particulate matter (PM) from the mold booth, woodworking and plastics machining shall be limited by the following:

Interpolation and extrapolation of the data for the process weight rate up to sixty thousand (60,000) pounds per hour shall be accomplished by use of the equation:

$$E = 4.10 P^{0.67}$$

where E = rate of emission in pounds per hour and
P = process weight rate in tons per hour.

D.2.2 Preventive Maintenance Plan [326 IAC 1-6-3]

A Preventive Maintenance Plan, in accordance with Section B - Preventive Maintenance Plan, of this permit, is required for this facility and its control device.

Compliance Determination Requirements

D.2.3 Testing Requirements [326 IAC 2-1.1-11]

The Permittee is not required to test this emissions unit by this permit. However, IDEM may require compliance testing when necessary to determine if the emissions unit is in compliance. If testing is required by IDEM compliance with the PM limit specified in Condition D.2.1 shall be determined by a performance test conducted in accordance with Section C - Performance Testing.

D.2.4 Dry Filter Operation

The dry filter shall be in operation at all times when the mold booth is in operation.

D.2.5 Monitoring

- (a) Weekly inspections shall be performed to verify the placement, integrity and particle loading of the filters. To monitor the performance of the dry filters, weekly observations shall be made of the overspray while one or more of the spray equipment is in operation.
- (b) Monthly inspections shall be performed of the fiberglass panel manufacturing line emissions from the stack and the presence of overspray on the rooftops and the nearby ground.
- (c) Additional inspections and preventive measures shall be performed as prescribed in the Preventive Maintenance Plan.

Record Keeping Requirements [326 IAC 2-5.1-3(e)(2)] [326 IAC 2-6.1-5(a)(2)]

D.2.6 Record Keeping Requirements

- (a) To document compliance with Condition D.2.5, the Permitted shall maintain a log of weekly overspray observations, monthly and weekly inspections, and those additional inspections prescribed by the Preventive Maintenance Plan.
- (b) To document compliance with D.2.6, the Permitted shall maintain records of weekly visible emission notations of mold booth #1 stack exhaust.
- (c) All records shall be maintained in accordance with Section C - General Record Keeping Requirements, of this permit.

SECTION D.3

EMISSIONS UNIT OPERATION CONDITIONS

Beck Drive Plant: (consists of 5120 Beck Drive building and 5100 Beck Drive building)

5100 Beck Drive Building

- (r) One (1) Empire Blast Cabinet used to sand blast the marble tops, sinks and flat tops, vented to a dust collector designated as DC-2 and then internally.
- (s) Ten (10) hand grinders used for the final finish touch up operations are vented to dust collectors, designated as DC-3 to DC-6 and then internally. This operation is capable of grinding 538 pounds per hour.

Emission Limitations and Standards

D.3.1 Particulate Matter (PM) [326 IAC 6-3-2]

The PM emissions from the Empire Blast Cabinet shall be limited to 0.0077 pound per hour emission rate and the final finish touch up operation shall be limited to 3.55 pound per hour emission rate established as E in the formula identified in the following formula.

Interpolation and extrapolation of the data for the process weight rate up to sixty thousand (60,000) pounds per hour shall be accomplished by use of the equation:

$$E = 4.10 P^{0.67}$$

where

E = rate of emission in pounds per hour; and
P = process weight rate in tons per hour.

D.3.2 Preventive Maintenance Plan [326 IAC 1-6-3]

A Preventive Maintenance Plan, in accordance with Section C - Preventive Maintenance Plan, of this permit, is required for the blast cabinet controlled by dust collector DC-2, final finishing touch up operations controlled by DC-3 through DC-6.

Compliance Determination Requirements

D.3.3 Testing Requirements [326 IAC 2-1.1-11]

The Permittee is not required to test this emissions unit by this permit. However, IDEM may require compliance testing when necessary to determine if the emissions unit is in compliance. If testing is required by IDEM compliance with the PM limit specified in Condition D.3.1 shall be determined by a performance test conducted in accordance with Section C - Performance Testing.

D.3.4 Baghouse Operation

The DC-2 baghouse shall always be in operation when the blast cabinet is in operation; and baghouse DC-3 through DC-6 shall always be in operation when the final finishing touch up equipment are in operation.

D.3.5 Baghouse Inspections

An inspection shall be performed each calendar quarter of all bags controlling the blast cabinet and final finishing touch up operations, when venting to the atmosphere. A baghouse inspection shall be performed within three months of redirecting vents to the atmosphere and every three

months thereafter. Inspections are optional when venting to the indoors. All defective bags shall be replaced.

D.3.6 Broken or Failed Bag Detection

In the event that bag failure has been observed:

- (a) The affected compartments will be shut down immediately until the failed units have been repaired or replaced. Within eight (8) hours of the determination of failure, response steps according to the timetable described in the Preventative Maintenance Plan shall be initiated. For any failure with corresponding response steps and timetable not described in the Preventative Maintenance Plan, response steps shall be devised within eight (8) hours of discovery of the failure and shall include a timetable for completion. Operations may continue only if the event qualifies as a malfunction and the Permittee satisfies the requirements of the malfunction provisions of this permit (Section C - Malfunction Provisions).
- (b) For single compartment baghouses, failed units and the associated process will be shut down immediately until the failed units have been repaired or replaced. Operations may continue only if the event qualifies as a malfunction and the Permittee satisfies the requirements of the malfunction provisions of this permit (Section C - Malfunction Provisions).

Record Keeping and Reporting Requirements [326 IAC 2-5.1-3(e)(2)] [326 IAC 2-6.1-5(a)(2)]

D.3.7 Record Keeping Requirements

- (a) All records shall be maintained in accordance with Section C - General Record Keeping Requirements, of this permit.

**INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF AIR MANAGEMENT
COMPLIANCE DATA SECTION**

**Minor Source Operating Permit
Quarterly Report**

Source Name: Alpha Systems, Inc.
Source Address: 5100 Beck Drive, Elkhart, Indiana 46516
Mailing Address: 5120 Beck Drive, Elkhart, Indiana 46516
FESOP No.: MSOP 039-11066-00504
Facility: Flat sheet open molding line, FS1 and the sink/countertop closed molding line, including the stone mixer M1
Parameter: Volatile Organic Compounds
Limit: Shall be less than 25 tons per twelve-month period, rolled on monthly basis.

During the first twelve (12) months of operation, the volatile organic material used shall be limited such that the total volatile organic material used divided by accumulated months of operation shall be less than VOC emissions average of 2.08 tons per month, rolled on a monthly basis. Therefore, 326 IAC 8-1-6 will not apply.

YEAR: _____

Month	Column 1	Column 2	Column 1 + Column 2
	This Month	Previous 11 Months	12 Month Total
Month 1			
Month 2			
Month 3			

9 No deviation occurred in this quarter.

9 Deviation/s occurred in this quarter.
Deviation has been reported on: _____

Submitted by: _____
Title / Position: _____
Signature: _____
Date: _____
Phone: _____

**INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF AIR MANAGEMENT
COMPLIANCE DATA SECTION**

**Minor Source Operating Permit
Quarterly Report**

Source Name: Alpha Systems, Inc.
Source Address: 5100 Beck Drive, Elkhart, Indiana 46516
Mailing Address: 5120 Beck Drive, Elkhart, Indiana 46516
FESOP No.: MSOP 039-11066-00504
Facility: Resin Molding Plant (mixer M1, flatsheet, countertop and sink molding facilities)
Parameter: Single HAP and Combined HAPs
Limit: (a) Single HAP - shall be less than 10 tons per twelve-month period, rolled on a monthly basis.

During the first twelve (12) months of operation, the HAP material used shall be limited such that the total HAP material used divided by accumulated months of operation shall be less than a combined HAPs emissions average of 2.08 tons per month, rolled on a monthly basis.

(b) Combined HAPs - Shall be less than 25 tons per twelve-month period, rolled on a monthly basis.

During the first twelve (12) months of operation, the HAP material used shall be limited such that the total HAP material used divided by accumulated months of operation shall be less than a combined HAPs emissions average of 2.08 tons per month, rolled on a monthly basis.

YEAR: _____

Month	This Month		Previous 11 Months		12 Month Total	
	Single HAP Emitted (tons)	Combined HAPs Emitted (tons)	Single HAP Emitted (tons)	Combined HAPs Emitted (tons)	Single HAP Emitted (tons)	Combined HAPs Emitted (tons)
Month 1						
Month 2						
Month 3						

9 No deviation occurred in this quarter.

9 Deviation/s occurred in this quarter.
Deviation has been reported on: _____

Submitted by: _____
Title / Position: _____
Signature: _____
Date: _____
Phone: _____

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF AIR MANAGEMENT
COMPLIANCE DATA SECTION

MINOR SOURCE OPERATING PERMIT ANNUAL NOTIFICATION

This form should be used to comply with the notification requirements under 326 IAC 2-6.1-5(a)(5).

Company Name: Alpha Systems, Inc.	
Address:	5120 Beck Drive
City:	Elkhart, Indiana 46516
Phone #:	(219) 295-5206
MSOP #:	039-11066-00504

I hereby certify that **Alpha Systems, Inc.** is ☐ still in operation.
☐ no longer in operation.

I hereby certify that **Apha Systems, Inc.** is ☐ 9 in compliance with the requirements of MSOP **039-11066-00504**
☐ 9 not in compliance with the requirements of MSOP **039-11066-00504**

Authorized Individual (typed):
Title:
Signature:
Date:

If there are any conditions or requirements for which the source is not in compliance, provide a narrative description of how the source did or will achieve compliance and the date compliance was, or will be achieved.

Noncompliance:

Indiana Department of Environmental Management Office of Air Management

Technical Support Document (TSD) for a Permit Revision to a Minor Source Operating Permit

Source Background and Description

Source Name:	Alpha Systems, Inc.
Source Location:	5120 Beck Drive, Elkhart, Indiana 46516
County:	Elkhart
SIC Code:	3088
Operation Permit No.:	MSOP 039-11066-00504
Operation Permit Issuance Date:	October 6, 1999
Permit Revision No.:	MSOP 039-12282-00504
Permit Reviewer:	ERG/EG

The Office of Air Management (OAM) has reviewed an application from Alpha Systems, Inc., relating to the first significant permit revision to their MSOP. This application was reviewed as a significant permit revision because the potential to emit of particulate matter is greater than 25 tons per year and the potential to emit of hazardous air pollutants is greater than 10 tons per year of a single hazardous air pollutant and 25 tons per year of a combination of hazardous air pollutants.

New Emission Units or Increasing Capacity of Emission Units and Pollution Control Equipment

5100 Beck Drive Building

- (l) Two (2) flat top sanders designated as FS-1, FS-2 used for finishing as a final product on the flat sheet open molding line.
- (n) One (1) stone mixer, designed as SM-1B, with a maximum capacity of 1500 lbs/hr and exhausts into the building.
- (p) One (1) bulk resin tank, designed as BRT-1, with a maximum capacity of 6,000 gallons and exhausts into the building.

Unpermitted Emission Units and Pollution Control Equipment

5120 Beck Drive Building

- (g) One (1) existing mix tank, used in the solvent-based adhesives production area, designed as M-1, increased maximum capacity to 500 gallons, this tank vents inside the building.
- (h) One (1) existing mix tank, used in the solvent-based adhesive production area, designed as M-2, increased maximum capacity to 400 gallons, this tank vents inside the building.
- (l) One (1) mix tank, used in the solvent-based adhesive production area, designed as M-3, with a maximum capacity of 300 gallons, this tank vents inside the building.

- (j) Six (6) storage tanks, designed as T-5 to T-10, with a maximum throughput of 2500 gallons per year each, located above ground and vents inside the building. The tanks designed as T-5 to T-10 are vertical fixed roof tanks.

5100 Beck Drive Building

- (o) Two (2) manual mixer, designed as MM-1 and MM-2, with a maximum capacity of 430 lbs each and exhausts into the building.
- (q) The facility increased their use of solvents, waxes, cleaners and other miscellaneous VOC containing materials used to manufacturer marble flat sinks and bowls.
- (r) One (1) Empire Blast Cabinet used to sand blast the marble tops, sinks and flat tops, vented to a dust collector designed as DC-2 and then internally.
- (s) Ten (10) hand grinders used for the final finish touch up operations are vented to dust collectors, designated as DC-3 to DC-6 and then internally. This operation is capable of grinding 538 pounds per hour.

History

On October 6, 1999, Alpha Systems, Inc. was issued a New Source Construction Permit and Minor Source Operating Permit to add the 5100 Beck Drive Plant to their existing 5120 Beck Drive location. On March 30, 2000, Alpha Systems, Inc. was issued their First Minor Permit Revision to MSOP 039-11066-00504 to add operations at 5120 Beck Drive Plant and add another plant at Protecta Drive. On May 18, 2000, OAM received an application from Alpha Systems, Inc. for their first significant Permit Revision to MSOP 039-11066-00504. This revision is to include new operations at the 5100 and 5120 Beck Drive Plants.

The additional emissions created from the changes contained in the First Minor Permit Revision identified as 039-11874-00504, caused the facility to have the potential to emit (as defined in 326 IAC 2-7-1 (29)) of PM10 is equal to or greater than 100 tons per year. Therefore, the source is subject to the provisions of 326 IAC 2-7.

Existing Approvals

The source has been operating under previous approvals including, but not limited to, the following:

- (a) Revision 039-11874 to MSOP 039-11066-00504, issued on March 30, 2000.
- (b) MSOP 039-11066-00504, issued on October 6, 1999; and
- (c) R 039-9958-00504, issued on November 19, 1998.

All conditions from previous approvals were incorporated into this permit.

Enforcement Issue

- (a) IDEM is aware that equipment has been constructed and operated prior to receipt of the proper permit. The subject equipment is listed in this Technical Support Document under the condition entitled Unpermitted Emission Units and Pollution Control Equipment.
- (b) IDEM is reviewing this matter and will take appropriate action. This proposed permit is intended to satisfy the requirements of the construction permit rules.

Recommendation

The staff recommends to the Commissioner that the construction and operation be approved. This recommendation is based on the following facts and conditions:

Unless otherwise stated, information used in this review was derived from the application and additional information submitted by the applicant.

An application for the purposes of this review was received on May 18, 2000. Additional information was received on July 18, 2000; August 9, 2000; and August 13, 2000.

Emission Calculations

See Appendix A of this document for detailed emissions calculations (pages 1 through 5).

Potential To Emit (New Equipment)

Pursuant to 326 IAC 2-1.1-1(16), Potential to Emit is defined as “the maximum capacity of a stationary source to emit any air pollutant under its physical and operational design. Any physical or operational limitation on the capacity of a source to emit an air pollutant, including air pollution control equipment and restrictions on hours of operation or type or amount of material combusted, stored, or processed shall be treated as part of its design if the limitation is enforceable by the U. S. EPA.”

Pollutant	Potential To Emit (tons/year)
PM	396.6
PM-10	396.6
SO ₂	-
VOC	166.5
CO	-
NO _x	-

Note: For the purpose of determining Title V applicability for particulates, PM-10, not PM, is the regulated pollutant in consideration.

HAP's	Potential To Emit (tons/year)
styrene	77.8
Dimethyl phylate	29.8
MEKP	24.3
Hexane	0.09
Vinyl Acetate	0.7
Toluene	0.3
Xylene	0.5
TOTAL	133.5

- (a) The potential to emit (as defined in 326 IAC 2-1.1-1(16)) of PM-10 and VOC are greater than 100 tons per year. Therefore, the source is subject to the provisions of 326 IAC 2-7.
- (b) The potential to emit (as defined in 326 IAC 2-1.1-1(16)) of any single HAP is equal to or greater than ten (10) tons per year and the potential to emit (as defined in 326 IAC 2-7-1(29)) of a combination HAPs is greater than or equal to twenty-five (25) tons per year. Therefore, the source is subject to the provisions of 326 IAC 2-7.

Actual Emissions

The following table shows the actual emissions from the source. This information reflects the OAM emission data.

Pollutant	Actual Emissions (tons/year)
PM	1
PM-10	1
SO ₂	0
VOC	6
CO	0
NO _x	1

Limited Potential to Emit

The table below summarizes the total potential to emit, reflecting all limits, of the significant emission units.

	Limited Potential to Emit (tons/year)						
Process/facility	PM	PM-10	SO ₂	VOC	CO	NO _x	HAPs
Flat Top Sanders	0.25	0.25					
Blast Cabinet	0.02	0.02					
Storage Tanks T-5 to T-10				0.82			Hexane 0.09 Toluene 0.06 Vinyl Acetate 0.67
Hand Grinders	0.13	0.13					
Mixer tanks				0.15			styrene 0.15
Registration No. 039-9958-00504	0.20	0.20	0.00	6.33	0.20	0.80	MEK = 2.07; Toluene = 1.87; Hexane = 1.56; and Methylene Chloride = 9.45
Countertop/Sink Molding Line and including the use of products with VOC (i.e., solvents, waxes, etc)	0.00	0.00	0.00	24.0	0.30	0.04	9.0 single HAP 24.0 Combination HAPs
Mold Booth 1	0.062	0.062	0.00	7.75	0.00	0.00	MEK = 0.004; Dimethyl Phthalate = 0.263; Methyl Chloride = 3.65; and Styrene = 2.07
Glue Line	0.00	0.00	0.00	0.00	0.00	0.00	MEK = 3.66
Woodworking/Plastic Machining	2.4	2.4	0.00	0.00	0.00	0.00	0.00
Infrared Tube Heaters	0.008	0.033	0.003	0.024	0.368	0.438	Hexane = 7.88E-03*
Ovens	0.08	0.09	0.03	0.24	3.68	4.38	Hexane = 7.88 E-02; Formaldehyde = 3.28E-03*

	Limited Potential to Emit (tons/year)						
Process/facility	PM	PM-10	SO ₂	VOC	CO	NO _x	HAPs
Total Emissions	7.95	8.23	0.033	39.31	4.55	6.02	MEK = 6.07; Vinyl Acetate 0.67; Toluene = 1.93; Hexane = 1.74; Dimethyl Phthalate = 0.263; Styrene = 11.22; Methylene Chloride = 13.1; and Formaldehyde = 3.28E-03

*Worst case HAPs emissions from combustion units.

County Attainment Status

The source is located in Elkhart County.

Pollutant	Status
PM-10	attainment
SO ₂	attainment
NO ₂	attainment
Ozone	attainment
CO	attainment
Lead	attainment

- (a) Volatile organic compounds (VOC) and oxides of nitrogen (NO_x) are precursors for the formation of ozone. Therefore, VOC and NO_x emissions are considered when evaluating the rule applicability relating to the ozone standards. Elkhart County has been designated as attainment or unclassifiable for ozone. Therefore, VOC and NO_x emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2 and 40 CFR 52.21.

Source Status

Existing Source PSD, Part 70 or FESOP Definition (emissions after controls, based on 8,760 hours of operation per year at rated capacity and/or as otherwise limited):

Pollutant	Emissions (ton/yr)
PM	7.95
PM-10	8.23
SO ₂	0.033
VOC	39.31
CO	4.55
NO _x	6.02

- (a) This existing source is not a major stationary source because no attainment regulated pollutant is emitted at a rate of 250 tons per year or more, and it is not in one of the 28 listed source categories.

- (b) These emissions were based on information obtained from the TSD of the first minor permit revision 039-11874 issued March 30, 2000 to the MSOP 039-11066-00504 issued October 6, 1999.

Proposed Modification

PTE from the proposed modification (based on 8,760 hours of operation per year at rated capacity including enforceable emission control and production limit, where applicable):

Pollutant	PM (ton/yr)	PM-10 (ton/yr)	SO ₂ (ton/yr)	VOC (ton/yr)	CO (ton/yr)	NO _x (ton/yr)
Proposed Modification	0.4	0.4	0	24.97	0	0
PSD or Offset Threshold Level	250	250	250	250	250	250

This modification to an existing minor stationary source is not major because the emission increase is less than the PSD significant levels. Therefore, pursuant to 326 IAC 2-2, and 40 CFR 52.21, the PSD requirements do not apply.

Part 70 Permit Determination

326 IAC 2-7 (Part 70 Permit Program)

This existing source, including the emissions from this significant permit revision 039-12282-00504, is still subject to the Part 70 Permit requirements because the potential to emit (PTE) of:

- (a) Each criteria pollutant is greater than 100 tons per year,
- (b) A single hazardous air pollutant (HAP) is greater than 10 tons per year, and
- (c) Any combination of HAPs is greater than 25 tons/year.

This status is based on all the air approvals issued to the source. This status has been verified by the OAM inspector assigned to the source.

Federal Rule Applicability

40 CFR 60, Subpart Kb Storage Vessels (including Petroleum Liquid Storage Vessels)

This source is not subject to the requirements of 40 CFR 60, Subpart Kb because this regulation only applies to storage vessels with a capacity greater than 10,000 gallons.

There are no other changes in Federal Rule Applicability from the original MSOP.

State Rule Applicability - Entire Source

326 IAC 2-6 (Emission Reporting)

Pursuant to 326 IAC 2-6 (Emission Reporting), because it has the potential to emit more than ten (10) tons per year of VOC. Pursuant to this rule, the owner/operator of the source must annually submit an emission statement for the source. The annual statement must be received by April 15 of each year and contain the minimum requirement as specified in 326 IAC 2-6-4. The submittal should cover the period defined in 326 IAC 2-6-2(8) (Emission Statement Operating Year).

326 IAC 5-1 (Visible Emission Limitations)

Pursuant to 326 IAC 5-1-2 (Opacity Limitations), except as provided in 326 IAC 5-1-3 (Temporary Exemptions), opacity shall meet the following, unless otherwise stated in this permit:

- (a) Opacity shall not exceed an average of forty percent (40%) any one (1) six (6) minute averaging period as determined in 326 IAC 5-1-4.

- (b) Opacity shall not exceed sixty percent (60%) for more than a cumulative total of fifteen (15) minutes (sixty (60) reading) as measured according to 40 CFR 60, Appendix A Method 9 or fifteen (15) one (1) minute nonoverlapping integrated averages for a continuous opacity monitor in a six (6) hour period.

State Rule Applicability - Individual Facilities

State Rule Applicability - (New Equipment)

326 IAC 2-4.1 (New Source Toxics Rule) is not specifically applicable to this modification, because the facility is adding new emission units to an existing production unit. However, pursuant to Operation Permit NO. MSOP 039-11066-00504, the facility is subject to a HAP limit which was taken to exempt them from the requirements of 326 IAC 2-4.1. The facility is still subject to that limit.

326 IAC 6-3-2 (Process Operations)

Pursuant to 326 IAC 6-3-2 (Process Operations), the particulate matter (PM) from the abrasive blasting, flat bed sanders and hand grinders shall be limited by the following:

Interpolation and extrapolation of the data for the process weight rate up to sixty thousand (60,000) pounds per hour shall be accomplished by use of the equation:

$$E = 4.10 P^{0.67} \quad \text{where } E = \text{rate of emission in pounds per hour and} \\ P = \text{process weight rate in tons per hour}$$

The dust collectors shall be in operation at all times the abrasive blasting, flat bed sanders and hand grinders are in operation, in order to comply with this limit.

326 IAC 8-1-6 (New Facilities; General Reduction Requirements)

Pursuant to 326 IAC 8-1-6 (New Facilities; General Reduction Requirements), the requirements of BACT do not apply. The facility is subject to a VOC limit which was taken to exempt them from the requirements of 326 IAC 8-1-6. The facility is still subject to that limit.

Proposed Changes

SECTION A

SOURCE SUMMARY

This permit is based on information requested by the Indiana Department of Environmental Management (IDEM), Office of Air Management (OAM). The information describing the source contained in conditions A.1 through A.3 is descriptive information and does not constitute enforceable conditions. However, the Permittee should be aware that a physical change or a change in the method of operation that may render this descriptive information obsolete or inaccurate may trigger requirements for the Permittee to obtain additional permits or seek modification of this permit pursuant to 326 IAC 2, or change other applicable requirements presented in the permit application.

A.1 General Information [326 IAC 2-5.1-3(c)] [326 IAC 2-6.1-4(a)]

The Permittee currently owns and operates an adhesive manufacturing plant. The Permittee proposed to construct and operate a plant that will manufacture fiberglass countertops and sinks.

Authorized Individual:	Steve Rusincovitch
Source Address:	5100 Beck Drive, Elkhart, Indiana 46516
Mailing Address:	5120 Beck Drive, Elkhart, Indiana 46516
Phone Number:	(219) 295-5206
SIC Code:	2891
County Location:	Elkhart County
Status:	Attainment for all criteria pollutants
Source Status:	Minor Source Operating Permit

A.2 Emissions units and Pollution Control Equipment Summary

This stationary source is approved to construct and operate the following emissions units and pollution control devices:

Beck Drive Plant: (consists of 5120 Beck Drive building and 5100 Beck Drive building)

5120 Beck Drive Building

- (a) Nine (9) natural gas-fired heaters, designated as C1-C9, with a maximum heat input capacity of 0.2 mmBtu/hr each and exhausts to the atmosphere.
- (b) Four (4) organic storage tanks, designated as T1-T4, a maximum throughput of 140,000 gallons per year each, located above ground and exhausts to the atmosphere. Tanks designated as T1 and T2 are vertical fixed roof tanks. Tanks designated as T3 and T4 are flat top tanks.
- (c) One (1) solvent-based adhesives production area, consisting of two (2) mixing vessels designated as M-1 and M-2, one (1) bulk product filling machine designated as F1, and exhausts to a stack designated as V1. M1 has a maximum raw material throughput of 586 pounds per hour and a maximum capacity of 300 gallons. M2 has a maximum raw material throughput of 277 pounds per hour and a maximum capacity of 275 gallons. F1 has a maximum raw material filling rate of 350 pounds per minute.
- (d) One (1) polyurethane adhesive production area.
- (e) One (1) water-based adhesive production area.
- (f) One (1) hot melt adhesive production area.
- (g) One (1) existing mix tank, used in the solvent-based adhesives production area, designed as M-1, increased maximum capacity to 500 gallons, this tank vents inside the building.**
- (h) One (1) existing mix tank., used in the solvent-based adhesive production area, designed as M-2, increased maximum capacity to 400 gallons, this tank vents inside the building.**
- (i) One (1) mix tank., used in the solvent-based adhesive production area, designed as M-3, with a maximum capacity of 300 gallons, this tank vents inside the building.**
- (j) Six (6) storage tanks, designed as T-5 to T-10, with a maximum throughput of 2500 gallons per year each, located above ground and vents inside the building. The tanks designed as T-5 to T-10 are vertical fixed roof tanks.**

5100 Beck Drive Building

- (k)g** One (1) stone mixer, identified as M1 which has a rated capacity of 2,219 pounds per hour (lb/hr). This mixer can only feed one (1) line at a time, either the flat sheet molding line, FS1 or the sink/countertop molding, C1.
- (l)h** One (1) flat sheet open molding line, identified as FS1 which has a rated capacity of 3,000 lb/hr. This facility is used to manufacture flat strips to match the countertops in line C1. From this process, the flat strip is conveyed to the sawing and sanding operation, identified as S1 **including various already permitted sanders and two (2) flat top sanders designated as FS-1, FS-2 for finishing as a final product.** This operation is capable of sawing and sanding 1614 pounds per hour of product.

One (1) dust collector, identified as DC1 used to control the particulate matter (PM) emissions coming from facility S1.

- (m)(i)** One (1) sink/countertop closed molding line, identified as C1 which is capable of molding 34 parts per hour. From this process, the parts are conveyed to the 0.8 million Btu/hr (mmBtu/hr) natural gas-fired dryer, identified D1 for drying as a final product.
- (n)** **One (1) stone mixer, designed as SM-1B, with a maximum capacity of 1500 lbs/hr and exhausts into the building.**
- (o)** **Two (2) manual mixer, designed as MM-1 and MM-2, with a maximum capacity of 430 lbs each and exhausts into the building.**
- (p)** **One (1) bulk resin tank, designed as BRT-1, with a maximum capacity of 6,000 gallons and exhausts into the building.**
- (q)** **The facility increased their use of solvents, waxes, cleaners and other miscellaneous VOC containing materials used to manufacturer marble flat sinks and bowls.**
- (r)** **One (1) Empire Blast Cabinet used to sand blast the marble tops, sinks and flat tops, vented to a dust collector designed as DC-2 and then internally.**
- (s)** **Ten (10) hand grinders used for the final finish touch up operations are vented to dust collectors, designated as DC-3 to DC-6 and then internally. This operation is capable of grinding 538 pounds per hour.**

Protecta Drive Plant:

- (t)(a)** One (1) rubber storage area.
- (u)(b)** Four (4) vacuum former machines.
- (v)(c)** One (1) woodworking and plastics machining area, with a maximum wood rate of 6.0 pounds per hour, a maximum plastic rate of 350.0 pounds per hour, exhausts to the atmosphere and consists of the following:
 - 1. Ten (10) inch table saw;
 - 2. Sixty (60) inch edge sander;
 - 3. Two (2) fourteen (14) inch band saws;
 - 4. Ten (10) inch swing saw;
 - 5. Three (3) router tables;
 - 6. One (1) vacuum former machine;
 - 7. One (1) CNC router;
 - 8. Miscellaneous hand operated saws, grinders and drills; and
 - 9. One (1) hydraulic press.
- (w)(d)** Four (4) natural gas-fired ovens, with a maximum heat input capacity of 2.5 mmBtu/hr each and exhaust to stacks designated as OVN-001 thru OVN-004.
- (x)(e)** Ten (10) natural gas-fired infrared heater tubes, with a maximum heat input capacity of 0.1 mmBtu/hr each and exhaust to stacks designated as TH-001 thru TH-010.
- (y)(f)** One (1) marble top mold booth, designated as #1, with a maximum throughout of 0.125 units per hour, consisting of gel coat and resin application, controlled by dry filters for particulate matter overspray and exhausts to one (1) stack designated as SV-001.

(z)(g) One (1) glue line for polycarbonate skylights, with a maximum throughput of 37.7 units per hour and exhausts to the atmosphere.

(aa)(h) Ten (10) thirty (30) inch comfort fans.

A.3 Part 70 Permit Applicability [326 IAC 2-7-2]

This stationary source is required to have a Part 70 permit by 326 IAC 2-7-2 (Applicability) because:

- (a) It is a major source, as defined in 326 IAC 2-7-1(22);
- (b) The source shall submit a Title V permit application within twelve (12) months after the source becomes subject to Title V. This 12-month period starts at the postmarked submission date of the Affidavit of Construction **for the modifications approved under First Minor Permit Revision 039-11874 issued on March 30, 2000 of Operation Permit No. MSOP 039-11066-00504.**

SECTION D.1

EMISSIONS UNIT OPERATION CONDITIONS

Beck Drive Plant: (consists of 5120 Beck Drive building and 5100 Beck Drive building)

5120 Beck Drive Building

- (a) Nine (9) natural gas-fired heaters, designated as C1-C9, with a maximum heat input capacity of 0.2 mmBtu/hr each and exhausts to the atmosphere.
- (b) Four (4) organic storage tanks, designated as T1-T4, a maximum throughput of 140, 000 gallons per year each, located above ground and exhausts to the atmosphere.
- (c) Tanks designated as T1 and T2 are vertical fixed roof tanks. Tanks designated as T3 and T4 are flat top tanks. One (1) solvent-based adhesives production area, consisting of two (2) mixing vessels designated as M-1 and M-2, one (1) bulk product filling machine designated as F1, and exhausts to a stack designated as V1. M1 has a maximum raw material throughput of 586 pounds per hour and a maximum capacity of 300 gallons. M2 has a maximum raw material throughput of 277 pounds per hour and a maximum capacity of 275 gallons. F1 has a maximum raw material filling rate of 350 pounds per minute.
- (d) One (1) polyurethane adhesive production area.
- (e) One (1) water-based adhesive production area.
- (f) One (1) hot melt adhesive production area.
- (g) One (1) existing mix tank, used in the solvent-based adhesives production area, designed as M-1, increased maximum capacity to 500 gallons, this tank vents inside the building.**
- (h) One (1) existing mix tank, used in the solvent-based adhesive production area, designed as M-2, increased maximum capacity to 400 gallons, this tank vents inside the building.**
- (i) One (1) mix tank, used in the solvent-based adhesive production area, designed as M-3, with a maximum capacity of 300 gallons, this tank vents inside the building.**
- (j) Six (6) storage tanks, designed as T-5 to T-10, with a maximum throughput of 2500 gallons per year each, located above ground and vents inside the building. The tanks designed as T-5 to T-10 are vertical fixed roof tanks.**

5100 Beck Drive Building

- (k)(g) One (1) stone mixer, identified as M1 which has a rated capacity of 2,219 pounds per hour (lb/hr). This mixer can only feed one (1) line at a time, either the flat sheet molding line, FS1 or the sink/countertop molding, C1.**

SECTION D.1 EMISSIONS UNIT OPERATION CONDITIONS (Continued)

5100 Beck Drive Building (Continued)

- (l)(h)** One (1) flat sheet open molding line, identified as FS1 which has a rated capacity of 3,000 lb/hr. This facility is used to manufacture flat strips to match the countertops in line C1. From this process, the flat strip is conveyed to the sawing and sanding operation, identified as S1 **including various already permitted sanders and two (2) flat top sanders designated as FS-1, FS-2 for finishing as a final product.** One (1) dust collector, identified as DC1 used to control the particulate matter (PM) emissions coming from facility S1.
- (m)(i)** One (1) sink/countertop closed molding line, identified as C1 which is capable of molding 34 parts per hour. From this process, the parts are conveyed to the 0.8 million Btu/hr (mmBtu/hr) natural gas-fired dryer, identified D1 for drying as a final product.
- (n)** One (1) stone mixer, designed as SM-1B, with a maximum capacity of 1500 lbs/hr and exhausts into the building.
- (o)** Two (2) manual mixer, designed as MM-1 and MM-2, with a maximum capacity of 430 lbs each and exhausts into the building.
- (p)** One (1) bulk resin tank, designed as BRT-1, with a maximum capacity of 6,000 gallons and exhausts into the building.
- (q)** The facility is also using solvents, waxes, cleaners and other miscellaneous VOC containing materials used to manufacturer marble flat sinks and bowls.

Emission Limitations and Standards

D.1.1 Volatile Organic Compounds (VOC) [326 IAC 8-1-6]

The volatile organic materials used in the emission units identified in D.1 (a) - (q) shall be limited such that the VOC emissions shall be less than 25 tons per twelve-month period, rolled on a monthly basis.

During the first twelve (12) months of operation, the volatile organic material used shall be limited such that the total volatile organic material used divided by accumulated months of operation shall be less than VOC emission average of 2.08 tons per month, rolled on a monthly basis. Therefore, 326 IAC 8-1-6 will not apply.

D.1.2 Hazardous Air Pollutants (HAPs)

- (a) The HAP material used in the emission units identified in D.1 (a) - (q)** shall be limited such that the single HAP emissions shall be less than 10 tons per twelve-month period, rolled on a monthly basis.

During the first twelve (12) months of operation, the HAP material used shall be limited such that the total HAP material used divided by accumulated months of operation shall be less than a single HAP emission average of 0.83 tons per month, rolled on a monthly basis. Therefore, 326 IAC 2-4.1-1 (New Source Toxics Control) will not apply.

- (b) The HAP material used in the emission units identified in D.1 (a) - (q)** shall be limited such that the combined HAPs emissions shall be less than 25 tons per twelve-month period, rolled on a monthly basis.

During the first twelve (12) months of operation, the HAP material used shall be limited such that the total HAP material used divided by accumulated months of operation shall be less than a combined HAPs emission average of 2.08 tons per month, rolled on a monthly basis. Therefore, 326 IAC 2-4.1-1 (New Source Toxics Control) will not apply.

D.1.3 Particulate Matter (PM) [326 IAC 6-3-2]

(a) The PM emissions from the Sawing/Sanding operation, S1 shall be limited to **3.55 pound per hour** emission rate established as E in the formula listed below:

(b) The adhesive booth shall have PM allowable emissions using the following equation:

Interpolation and extrapolation of the data for the process weight rate up to sixty thousand (60,000) pounds per hour shall be accomplished by use of the equation:

$$E = 4.10 P^{0.67} \quad \text{where } E = \text{rate of emission in pounds per hour; and} \\ P = \text{process weight rate in tons per hour.}$$

D.1.4 Preventive Maintenance Plan [326 IAC 1-6-3]

A Preventive Maintenance Plan, in accordance with Section B - Preventive Maintenance Plan, of this permit, is required for the Resin Molding operation (mixer M1, flat sheet open molding line, FS1; sink/countertop closed molding line, C1; **flat top sanders FS-1 and FS-2**; and baghouse DC1).

Compliance Determination Requirements

D.1.5 Testing Requirements [326 IAC 2-1.1-11]

The Permittee is not required to test this emissions unit by this permit. However, IDEM may require compliance testing when necessary to determine if the emissions unit is in compliance. If testing is required by IDEM compliance with the VOC limit specified in Condition D.1.1 and D.1.2 shall be determined by a performance test conducted in accordance with Section C - Performance Testing.

D.1.6 Volatile Organic Compounds (VOC)

Compliance with the VOC and HAP content and usage limitations contained in Conditions D.1.1 and D.1.2 shall be determined using formulation data supplied by the manufacturer. IDEM, OAM, reserves the authority to determine compliance using Method 24 in conjunction with the analytical procedures specified in 326 IAC 8-1-4.

D.1.7 Baghouse Operation

Pursuant to MSOP 039-11066-00504, issued on October 6, 1999, DC1 shall always be in operation, whenever the Sawing/Sanding operation S1 is in operation.

D.1.8 Baghouse Inspections

An inspection shall be performed each calendar quarter of all bags controlling the Sawing/Sanding operation S1, when venting to the atmosphere. A baghouse inspection shall be performed within three months of redirecting vents to the atmosphere and every three months thereafter. Inspections are optional when venting to the indoors. All defective bags shall be replaced.

D.1.9 Broken or Failed Bag Detection

In the event that bag failure has been observed:

- (a) The affected compartments will be shut down immediately until the failed units have been repaired or replaced. Within eight (8) hours of the determination of failure, response steps according to the timetable described in the Preventative Maintenance Plan shall be initiated. For any failure with corresponding response steps and timetable not described in the Preventative Maintenance Plan, response steps shall be devised within eight (8) hours of discovery of the failure and shall include a timetable for completion. Operations may continue only if the event qualifies as a malfunction and the Permittee satisfies the requirements of the malfunction provisions of this permit (Section C - Malfunction Provisions).**
- (b) For single compartment baghouses, failed units and the associated process will be shut down immediately until the failed units have been repaired or replaced. Operations may continue only if the event qualifies as a malfunction and the Permittee satisfies the requirements of the malfunction provisions of this permit (Section C - Malfunction Provisions).**

Record Keeping and Reporting Requirements [326 IAC 2-5.1-3(e)(2)] [326 IAC 2-6.1-5(a)(2)]

D.1.109 Record Keeping Requirements

- (a) To document compliance with Conditions D.1.1 and D.1.2, the Permittee shall maintain records in accordance with (1) through (5) below. Records maintained for (1) through (5) shall be taken monthly and shall be complete and sufficient to establish compliance with the VOC usage limits and/or the VOC emission limits established in Conditions D.1.1 and D.1.2.**
 - (1) The amount and VOC and HAP content of each material and solvent used. Records shall include purchase orders, invoices, and material safety data sheets (MSDS) necessary to verify the type and amount used.**
 - (2) A log of the dates of use;**
 - (3) The cleanup solvent usage for each month;**
 - (4) The total VOC and HAP usages for each month; and**
 - (5) The weight of VOCs and HAPs emitted for each compliance period.**
- (b) All records shall be maintained in accordance with Section C - General Record Keeping Requirements, of this permit.**

D.1.1140 Reporting Requirements

A quarterly summary of the information to document compliance with Conditions D.1.1 and D.1.2 shall be submitted to the address listed in Section C - General Reporting Requirements, of this permit, using the reporting forms located at the end of this permit, or their equivalent, within thirty (30) days after the end of the quarter being reported.

SECTION D.2

EMISSIONS UNIT OPERATION CONDITIONS

Protecta Drive Plant:

- (t)(a) One (1) rubber storage area.
- (u)(b) Four (4) vacuum former machines.
- (v)(c) One (1) woodworking and plastics machining area, with a maximum wood rate of 6.0 pounds per hour, a maximum plastic rate of 350.0 pounds per hour, exhausts to the atmosphere and consists of the following:
1. Ten (10) inch table saw;
 2. Sixty (60) inch edge sander;
 3. Two (2) fourteen (14) inch band saws;
 4. Ten (10) inch swing saw;
 5. Three (3) router tables;
 6. One (1) vacuum former machine;
 7. One (1) CNC router;
 8. Miscellaneous hand operated saws, grinders and drills; and
 9. One (1) hydraulic press.
- (w)(d) Four (4) natural gas-fired ovens, with a maximum heat input capacity of 2.5 mmBtu/hr each and exhaust to stacks designated as OVN-001 thru OVN-004.
- (x)(e) Ten (10) natural gas-fired infrared heater tubes, with a maximum heat input capacity of 0.1 mmBtu/hr each and exhaust to stacks designated as TH-001 thru TH-010.
- (y)(f) One (1) marble top mold booth, designated as #1, with a maximum throughput of 0.125 units per hour, consisting of gel coat and resin application, controlled by dry filters for particulate matter overspray and exhausts to one (1) stack designated as SV-001.
- (z)(g) One (1) glue line for polycarbonate skylights, with a maximum throughput of 37.7 units per hour and exhausts to the atmosphere.
- (aa)(h) Ten (10) thirty (30) inch comfort fans.

Emission Limitations and Standards

D.2.1 Particulate Matter (PM) [326 IAC 6-3-2]

Pursuant to 326 IAC 6-3-2 (Process Operations), the particulate matter (PM) from the mold booth, woodworking and plastics machining shall be limited by the following:

Interpolation and extrapolation of the data for the process weight rate up to sixty thousand (60,000) pounds per hour shall be accomplished by use of the equation:

$$E = 4.10 P^{0.67}$$

where E = rate of emission in pounds per hour and
P = process weight rate in tons per hour.

D.2.2 Preventive Maintenance Plan [326 IAC 1-6-3]

A Preventive Maintenance Plan, in accordance with Section B - Preventive Maintenance Plan, of this permit, is required for this facility and its control device.

Compliance Determination Requirements

D.2.3 Testing Requirements [326 IAC 2-1.1-11]

The Permittee is not required to test this emissions unit by this permit. However, IDEM may require compliance testing when necessary to determine if the emissions unit is in compliance. If testing is required by IDEM compliance with the PM limit specified in Condition D.2.1 shall be determined by a performance test conducted in accordance with Section C - Performance Testing.

D.2.4 Dry Filter Operation

The dry filter shall be in operation at all times when the mold booth is in operation.

D.2.5 Monitoring

- (a) Weekly inspections shall be performed to verify the placement, integrity and particle loading of the filters. To monitor the performance of the dry filters, weekly observations shall be made of the overspray while one or more of the spray equipment is in operation.
- (b) Monthly inspections shall be performed of the fiberglass panel manufacturing line emissions from the stack and the presence of overspray on the rooftops and the nearby ground.
- (c) Additional inspections and preventive measures shall be performed as prescribed in the Preventive Maintenance Plan.

D.2.6 Visible Emissions Notations

- (a) Weekly visible emission notations of mold booth #1, at the point of exhaust, shall be performed during normal daylight operations when exhausting to the atmosphere. A trained employee shall record whether emissions are normal or abnormal.
- (b) For processes operated continuously, "normal" means those conditions prevailing, or expected to prevail, eighty percent (80%) of the time the process is in operation, not counting startup or shut down time.
- (c) In the case of batch or discontinuous operations, readings shall be taken during that part of the operation that would normally be expected to cause the greatest emissions.
- (d) A trained employee is an employee who has worked at the plant at least one (1) month and has been trained in the appearance and characteristics of normal visible emissions for that specific process.

Record Keeping Requirements [326 IAC 2-5.1-3(e)(2)] [326 IAC 2-6.1-5(a)(2)]

D.2.7 Record Keeping Requirements

- (a) To document compliance with Condition D.2.5, the Permitted shall maintain a log of weekly overspray observations, monthly and weekly inspections, and those additional inspections prescribed by the Preventive Maintenance Plan.
- (b) To document compliance with D.2.6, the Permitted shall maintain records of weekly visible emission notations of mold booth #1 stack exhaust.
- (c) All records shall be maintained in accordance with Section C - General Record Keeping Requirements, of this permit.

SECTION D.3

EMISSIONS UNIT OPERATION CONDITIONS

Beck Drive Plant: (consists of 5120 Beck Drive building and 5100 Beck Drive building)

5100 Beck Drive Building

- (r) One (1) Empire Blast Cabinet used to sand blast the marble tops, sinks and flat tops, vented to a dust collector designated as DC-2 and then internally.
- (s) Ten (10) hand grinders used for the final finish touch up operations are vented to dust collectors, designated as DC-3 to DC-6 and then internally. This operation is capable of grinding 538 pounds per hour.

Emission Limitations and Standards

D.3.1 Particulate Matter (PM) [326 IAC 6-3-2]

The PM emissions from the Empire Blast Cabinet shall be limited to 0.0077 pound per hour emission rate and the final finish touch up operation shall be limited to 3.55 pound per hour emission rate established as E in the formula identified in the following formula.

Interpolation and extrapolation of the data for the process weight rate up to sixty thousand (60,000) pounds per hour shall be accomplished by use of the equation:

$$E = 4.10 P^{0.67}$$

where

E = rate of emission in pounds per hour; and
P = process weight rate in tons per hour.

D.3.2 Preventive Maintenance Plan [326 IAC 1-6-3]

A Preventive Maintenance Plan, in accordance with Section C - Preventive Maintenance Plan, of this permit, is required for the blast cabinet controlled by dust collector DC-2, final finishing touch up operations controlled by DC-3 through DC-6.

Compliance Determination Requirements

D.3.3 Testing Requirements [326 IAC 2-1.1-11]

The Permittee is not required to test this emissions unit by this permit. However, IDEM may require compliance testing when necessary to determine if the emissions unit is in compliance. If testing is required by IDEM compliance with the PM limit specified in Condition D.3.1 shall be determined by a performance test conducted in accordance with Section C - Performance Testing.

D.3.4 Baghouse Operation

The DC-2 baghouse shall always be in operation when the blast cabinet is in operation; and baghouse DC-3 through DC-6 shall always be in operation when the final finishing touch up equipment are in operation.

D.3.5 Baghouse Inspections

An inspection shall be performed each calendar quarter of all bags controlling the blast cabinet and final finishing touch up operations, when venting to the atmosphere. A baghouse inspection shall be performed within three months of redirecting vents to the

atmosphere and every three months thereafter. Inspections are optional when venting to the indoors. All defective bags shall be replaced.

D.3.6 Broken or Failed Bag Detection

In the event that bag failure has been observed:

- (a) The affected compartments will be shut down immediately until the failed units have been repaired or replaced. Within eight (8) hours of the determination of failure, response steps according to the timetable described in the Preventative Maintenance Plan shall be initiated. For any failure with corresponding response steps and timetable not described in the Preventative Maintenance Plan, response steps shall be devised within eight (8) hours of discovery of the failure and shall include a timetable for completion. Operations may continue only if the event qualifies as a malfunction and the Permittee satisfies the requirements of the malfunction provisions of this permit (Section C - Malfunction Provisions).
- (b) For single compartment baghouses, failed units and the associated process will be shut down immediately until the failed units have been repaired or replaced. Operations may continue only if the event qualifies as a malfunction and the Permittee satisfies the requirements of the malfunction provisions of this permit (Section C - Malfunction Provisions).

Record Keeping and Reporting Requirements [326 IAC 2-5.1-3(e)(2)] [326 IAC 2-6.1-5(a)(2)]

D.3.7 Record Keeping Requirements

- (a) All records shall be maintained in accordance with Section C - General Record Keeping Requirements, of this permit.

D.3.8 Reporting Requirements

A quarterly summary of the information to document compliance with Conditions D.3.1 shall be submitted to the address listed in Section C - General Reporting Requirements, of this permit, using the reporting forms located at the end of this permit, or their equivalent, within thirty (30) days after the end of the quarter being reported.

Conclusion

The construction and operation of the sinks, countertop and adhesive manufacturer shall be subject to the conditions of the attached proposed Second Permit Revision 039-12282-00504.

Indiana Department of Environmental Management Office of Air Management

Addendum to the Technical Support Document for Minor Source Operating permit (MSOP)

Source Name:	Alpha Systems, Inc.
Source Location:	5120 Beck Drive, Elkhart, Indiana 46516
County:	Elkhart
SIC Code:	3088
Operation Permit No.:	MSOP 039-11066-00504
Operation Permit Issuance Date:	October 6, 1999
Permit Revision No.:	MSOP 039-12282-00504
Permit Reviewer:	ERG/EG

On October 10, 2000, the Office of Air Management (OAM) had a notice published in the Elkhart Truth, Goshen, Indiana, stating that Alpha System, Inc. had applied for a Minor Source Operating Permit to operate a stationary source that produces sinks/countertops and adhesive manufacturer. The notice also stated that OAM proposed to issue a permit for this operation and provided information on how the public could review the proposed permit and other documentation. Finally, the notice informed interested parties that there was a period of thirty (30) days to provide comments on whether or not this permit should be issued as proposed.

No comments were received from Alpha Systems, Inc.

Upon further review, OAM has decided to make the following revisions to the permit (bold indicates language has been added, strike through language indicates the language has been deleted). The Table of Contents were effected by the changes.

1. Condition D.2.6 which requires weekly visible emission notations of mold booth #1 will be deleted because the source is already required to perform weekly overspray inspections and weekly inspections of the filters and monthly overspray inspections of the stack and the ground.

~~D.2.6 Visible Emissions Notations~~

- ~~(a) Weekly visible emission notations of mold booth #1, at the point of exhaust, shall be performed during normal daylight operations when exhausting to the atmosphere. A trained employee shall record whether emissions are normal or abnormal.~~
- ~~(b) For processes operated continuously, "normal" means those conditions prevailing, or expected to prevail, eighty percent (80%) of the time the process is in operation, not counting startup or shut down time.~~
- ~~(c) In the case of batch or discontinuous operations, readings shall be taken during that part of the operation that would normally be expected to cause the greatest emissions.~~

~~———— (d) ——— A trained employee is an employee who has worked at the plant at least one (1) month and has been trained in the appearance and characteristics of normal visible emissions for that specific process.~~

2. Condition D.3.8 requires quarterly reporting to document compliance with Condition D.3.1. IDEM inadvertently added this requirement and should be deleted. Condition D.3.1 is the process weight rate equation in 326 IAC 6-3-2 and there is no need for the source to recalculate this each month.

~~D.3.8 — Reporting Requirements—~~

~~———— A quarterly summary of the information to document compliance with Conditions D.3.1 shall be submitted to the address listed in Section C – General Reporting Requirements, of this permit, using the reporting forms located at the end of this permit, or their equivalent, within thirty (30) days after the end of the quarter being reported.~~

Appendix A: Emission Calculations

Abrasive Blasting - Confined

Company Name Alpha Systems, Inc.

Address City | Elkhart 46516

CP: 039-12282-00504

Plt ID: 504

Reviewer: ERG/EG

Date: 07/31/00

Table 1 - Emission Factors for Abrasives

Abrasive	Emission Factor	
	lb PM / lb abrasive	lb PM10 / lb PM
Sand	0.041	0.70
Grit	0.010	0.70
Steel Shot	0.004	0.86
Other	0.010	

Table 2 - Density of Abrasives

Abrasive
silica beads

Table 3 - Sand Flow Rate (FR1) Through Nozzle (lb/hr)

Flow rate of Sand Through a Blasting Nozzle as a Function of Nozzle pressure and Internal Diameter

Internal diameter, in	Nozzle Pressure (psig)					
	30	40	50	60	70	80
1/8	28	35	42	49	55	63
3/16	65	80	94	107	122	135
1/4	109	138	168	195	221	255
5/16	205	247	292	354	377	420
3/8	285	355	417	477	540	600
7/16	385	472	560	645	755	820
1/2	503	615	725	835	945	1050
5/8	820	990	1170	1336	1510	1680
3/4	1140	1420	1670	1915	2160	2400
1	2030	2460	2900	3340	3780	4200

Calculations

Adjusting Flow Rates for Different Abrasives and Nozzle Diameters

Flow Rate (FR) = Abrasive flow rate (lb/hr) with internal nozzle diameter (ID)

FR1 = Sand flow rate (lb/hr) with internal nozzle diameter (ID1) From Table 3 =

D = Density of abrasive (lb/ft³) From Table 2 =

D1 = Density of sand (lb/ft³) =

ID = Actual nozzle internal diameter (in) =

ID1 = Nozzle internal diameter (in) from Table 3 =

Flow Rate (FR) (lb/hr) =

Uncontrolled Emissions (E, lb/hr)

EF = emission factor (lb PM/ lb abrasive) From Table 1 =

FR = Flow Rate (lb/hr) =

w = fraction of time of wet blasting =

N = number of nozzles =

Uncontrolled Emissions =	4.55
	19.95

METHODOLOGY

Controlled Emissions =	0.02
------------------------	------

Emission Factors from STAPPA/ALAPCO "Air Quality Permits", Vol. I, Section 3 "Abrasive Blasting" (1991 edition)

Ton/yr = lb/hr X 8760 hr/yr X ton/2000 lbs

Flow Rate (FR) (lb/hr) = $FR1 \times (ID/ID1)^2 \times (D/D1)$

$E = EF \times FR \times (1-w/200) \times N$

w should be entered in as a whole number (if w is 50%, enter 50)

Density of Abrasives (lb/ft3)

Density (lb/ft3)
145.9

90	100
70	77
149	165
280	309
462	507
657	720
905	940
1160	1265
1850	2030
2630	2880
4640	5060

309
145.9
99
0.25
0.25

455.385 per nozzle

0.010

455.385

0 %

1

lb/hr

ton/yr

ton/yr

tion)

Appendix A: Emission Calculations
HAP Emission Calculations

Company Nan Alpha Systems, Inc.

Address City | Elkhart 46516

CP#: 039-12282-00504

Plt ID: 504

Permit Review ERG/EG

Date: 07/31/00

Material	Density (Lb/Gal)	Gallons of Material (gal/unit)	Maximum (unit/hour)	Weight % Stryene	Weight % Toluene	Weight % MEKP	Weight % Dimethyl phthalate	Weight % Xylene	Styrene Emissions* (ton/yr)
Resin	9.50	3.98300	18.200	36.00%					72.39
Zyvax	6.46	0.00990	18.200						0.00
Chemlease#1	6.55	0.01000	18.200						0.00
TF-100	7.42	0.01000	18.200	88.00%					5.21
Paste Wax	7.00	0.00007	18.200						0.00
Hi Point 90	9.26	0.08240	18.200			40.00%	49.00%		0.00
Marble Wash	9.11	0.03300	18.200		1.00%			2.00%	0.00

77.60

HAPS emission rate (tons/yr) = Density (lb/gal) * Gal of Material (gal/unit) * Maximum (unit/hr) * Weight % HAP * 8760 hrs/yr * 1 ton/2000 lbs

** Styrene emissions calculated using CFA Phase I, non-atomized application using vapor suppressed resin, emission s equal 2.4% of resin.

The vapor suppressed resin factor was chosen because Alpha's application into the flat sheets is poured in all at once acting as a vapor suppression for all

Toluene Emissions (ton/yr)	MEKP Emissions (ton/yr)	Dimethyl phalate Emissions (ton/yr)	Xylene Emissions (ton/yr)
0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00
0.00	24.33	29.80	0.00
0.24	0.00	0.00	0.48
0.24	24.33	29.80	0.48
TOTAL HAP			132.45

12282calc.wk4

the resin mixture except what is exposed to the atmosphere

**Appendix A: Emissions Calculations
VOC and Particulate
From Surface Coating Operations**

Company Nan Alpha Systems, Inc.

Address City I Elkhart 46516

CP: 039-12282-00504

Plt ID: 504

Reviewer: ERG/EG

Date: 07/31/00

Material	Density (Lb/Gal)	Weight % Volatile (H2O & Organics)	Weight % Water	Weight % Organics	Volume % Water	Volume % Non-Volatiles (solids)	Gal of Mat. (gal/unit)	Maximum (unit/hour)	Pounds VOC per gallon of coating less water
Resin**	9.50	0.00%	0.0%	36.0%	0.0%	67.00%	3.98300	18.200	3.42
Zyvax	6.46	0.00%	0.0%	99.0%	0.0%	0.00%	0.00990	18.200	6.40
Chemlease#15	6.55	0.00%	0.0%	95.0%	0.0%	0.00%	0.01000	18.200	6.22
TF-100	7.42	0.00%	0.0%	88.0%	0.0%	0.00%	0.01000	18.200	6.53
Paste Wax	7.00	0.00%	0.0%	75.0%	0.0%	0.00%	0.00007	18.200	5.25
Hi Point 90	9.26	0.00%	0.0%	89.0%	0.0%	0.00%	0.08240	18.200	8.24
Marble wash	9.1	100.00%	1.0%	99.0%	0.0%	0.00%	0.03300	18.200	9.04

State Potentia

METHODOLOGY

Pounds of VOC per Gallon Coating less Water = (Density (lb/gal) * Weight % Organics) / (1-Volume % water)

Pounds of VOC per Gallon Coating = (Density (lb/gal) * Weight % Organics)

Potential VOC Pounds per Hour = Pounds of VOC per Gallon coating (lb/gal) * Gal of Material (gal/unit) * Maximum (units/hr)

Potential VOC Pounds per Day = Pounds of VOC per Gallon coating (lb/gal) * Gal of Material (gal/unit) * Maximum (units/hr) * (24 hr/day)

Potential VOC Tons per Year = Pounds of VOC per Gallon coating (lb/gal) * Gal of Material (gal/unit) * Maximum (units/hr) * (8760 hr/yr) * (1 ton/2000 lbs)

Particulate Potential Tons per Year = (units/hour) * (gal/unit) * (lbs/gal) * (1- Weight % Volatiles) * (1-Transfer efficiency) *(8760 hrs/yr) *(1 ton/2000 lbs)

Pounds VOC per Gallon of Solids = (Density (lbs/gal) * Weight % organics) / (Volume % solids)

** Styrene emissions calculated using CFA Phase I, non-atomized application using vapor suppressed resin, emission s equal 2.4% of resin.

The vapor suppressed resin factor was chosen because Alpha's application into the flat sheets is poured in all at once acting as a vapor suppression for all

Pounds VOC per gallon of coating	Potential VOC pounds per hour	Potential VOC pounds per day	Potential VOC tons per year	Particulate Potential (ton/yr)	lb VOC/gal solids	Transfer Efficiency
0.23	16.53	396.67	72.39	0.00	5.10	100%
6.40	1.15	27.66	5.05	0.00	0.00	100%
6.22	1.13	27.18	4.96	0.00	0.00	100%
6.53	1.19	28.52	5.21	0.00	0.00	100%
5.25	0.01	0.16	0.03	0.00	0.00	100%
8.24	12.36	296.63	54.13	0.00	0.00	100%
9.04	5.43	130.29	23.78	0.00	0.00	100%

I Emissions 37.80 907.10 165.55 0.00

the resin mixture except what is exposed to the atmosphere during curing.

Appendix A: Emissions Calculations
Emission Calculations
Emissions from Storage Tanks

Company Name: Alpha Systems, Inc.

Address City IN: Elkhart 46516

CP: 039-12282-00504

Pit ID: 504

Reviewer: ERG/EG

Date: 07/31/00

Storage Tank	Emissions (lbs/year)								
	Acetone			Hexane (-n)			Toluene		
	Working Loss	Breathing Loss	Total	Working Loss	Breathing Loss	Total	Working Loss	Breathing Loss	Total
M-1 Vertical Fixed Roof							43.49	7.09	50.58
M-2 Vertical Fixed Roof							40.42	8.03	48.45
M-3 Vertical Fixed Roof	172.9	20.32	193.22	169.3	19.9	189.2	18.01	2.12	20.13
T-5 Vertical Fixed Roof									
T-6 Vertical Fixed Roof									
T-7 Vertical Fixed Roof									
T-8 Vertical Fixed Roof									
T-9 Vertical Fixed Roof									
T-10 Vertical Fixed Roof									
Total	172.9	20.32	193.22	169.3	19.9	189.2	101.92	17.24	119.16
Total (tons/year)	0.09	0.01	0.10	0.08	0.01	0.09	0.05	0.01	0.06

* The storage tank emission calculations are estimated using U.S. EPA's Emission Factor and Inventory Group TANKS Version 4.0 sc

Vinyl acetate		
Working Loss	Breathing Loss	Total
317.79	132.06	449.85
79.86	131.92	211.78
125.9	133.61	259.51
125.9	132.58	258.48
38.82	43.94	82.76
35.49	39.25	74.75
723.76	613.36	1337.13
0.36	0.31	0.67

oftware program.

Appendix A: Emissions Calculations
Emission Calculations
PM and PM10 emissions

Company Name Alpha Systems, Inc.

Address City Elkhart 46516

CP: 039-12282-00504

Plt ID: 504

Reviewer: ERG/EG

Date: 07/31/00

PM from Flat Bed Sanders

PM Emission Factor	55.94	lbs of dust/hr	
PM10 Emission Factor	55.94	lbs of dust/hr	
	PTE before		Emissions after 99
	PM	PM10	PM
	245.02	245.02	0.25
Total	245.02	245.02	0.25

*PM emission factor considering all PM emissions, filterable PM and filterable PM-10

Methodology

Sander dust operations are controlled by baghouse.

Emission Factors are from plant estimates

PM from Hand Grinders

PM Emission Factor	30.06	lbs of dust/hr	
PM10 Emission Factor	30.06	lbs of dust/hr	
	PTE before		Emissions after 99

	PM	PM10	PM
	131.66	131.66	0.13
	131.66	131.66	0.13

*PM emission factor considering all PM emissions, filterable PM and filterable PM-10

Methodology

Grinder operations are control by a baghouse.

Emission Factors are from plant estimates

PM10
0.25
0.25
10 and condensable

PM10
0.13
0.13
10 and condensable